MEGAVOICE 2000

MULTIPURPOSE TELECOMPUTER

INSTALLATION MANUAL

Model code 6000 2003
Version 000 31 00 01

Duratech Oy
www.duratech.net

DIRECTORY

1.GENERAL
1.1 MEGAVOICE 2000

Congratulations ! You have selected a new intelligent Megavoice 2000 Voice announcer. The device can be used for many purposes with different sotware versions. The hardware is also expandable.

Megavoice is reliable. The voice recordings and set ups are stored into chip memory for more than 10 years without electricity.The device is supervised by watch dog, which resets the system if voltage is not good or the system is not operating normally. The case is made of durable aluminium. The interfaces are protected far better than the standards require.

Megavoice is easy to install. The case can be placed in any direction and can even stand on its side. There is a fixing metal under the unit for wall mounting. The case is designed to fit into many standard mechanics. Line cords can be terminad to RJ modular connector or to LSA+-frame. The units can be stacked up. Customer messages and set ups can be programmed before installation, because the unit do not need electricity for storing memory. The unit is also fully remote programmable.The unit is remote programmable with DTMF code. Standard telephone or cellular one can be used. Programming is as easy as 1-2-3 and many features are programmed with suitable default values.

Megavoice basic unit can store up 128s messages and the capacity can be extended to 256 s or more. There are 2 lines L1 and L2. Messages are message1...message 9. (>=V3.0 , M9 is guiding message). The lines acts as telephones with flash transfer. The lines can in/output signal without Dc-current to 600 ohm line also. There is also option for E&M lines. Basic system has line interfaces for headset and CD-player or recorder. The line level is adjustable from the front panel.The front panel dip switches are used for special cases and are not needed normally. Front panel has also connector for separate or internal 32 character LCD display. It helps to program, study and read the system programming. It also indicates the incoming calls counter and displays free and used memory. Front panel has three leds; green, yellow, red like traffic lights. Normal green lights and everything is OK. Yellow indicated wait and red error. These leds indicated also the recording level: green OK, yellow OK, red too high.

Megavoice is has low power consuption. It operates between 11-60Vdc. The power unit has low voltage detection /shut off for lead acid battery systems for 12/24/48 V. Basic unit draws only 2.5W normally. Also mains AC/DC power supply can be used and is supplied with the unit.

Basic unit can be expanded with expansion port. It can use for example 4 extra lines. Also there are many options: V.24 port for maintenance, real time clock, IO-port, cellular phone interface, relay outputs. Custom made interfaces are available on request.

Megavoice operates in normal office type place. Temerature limit is +5...50C, 0...90% RH, normal radiation, normal air pressure, max 1g. Size is 259x195x85 mm and weight apx.1 kg.

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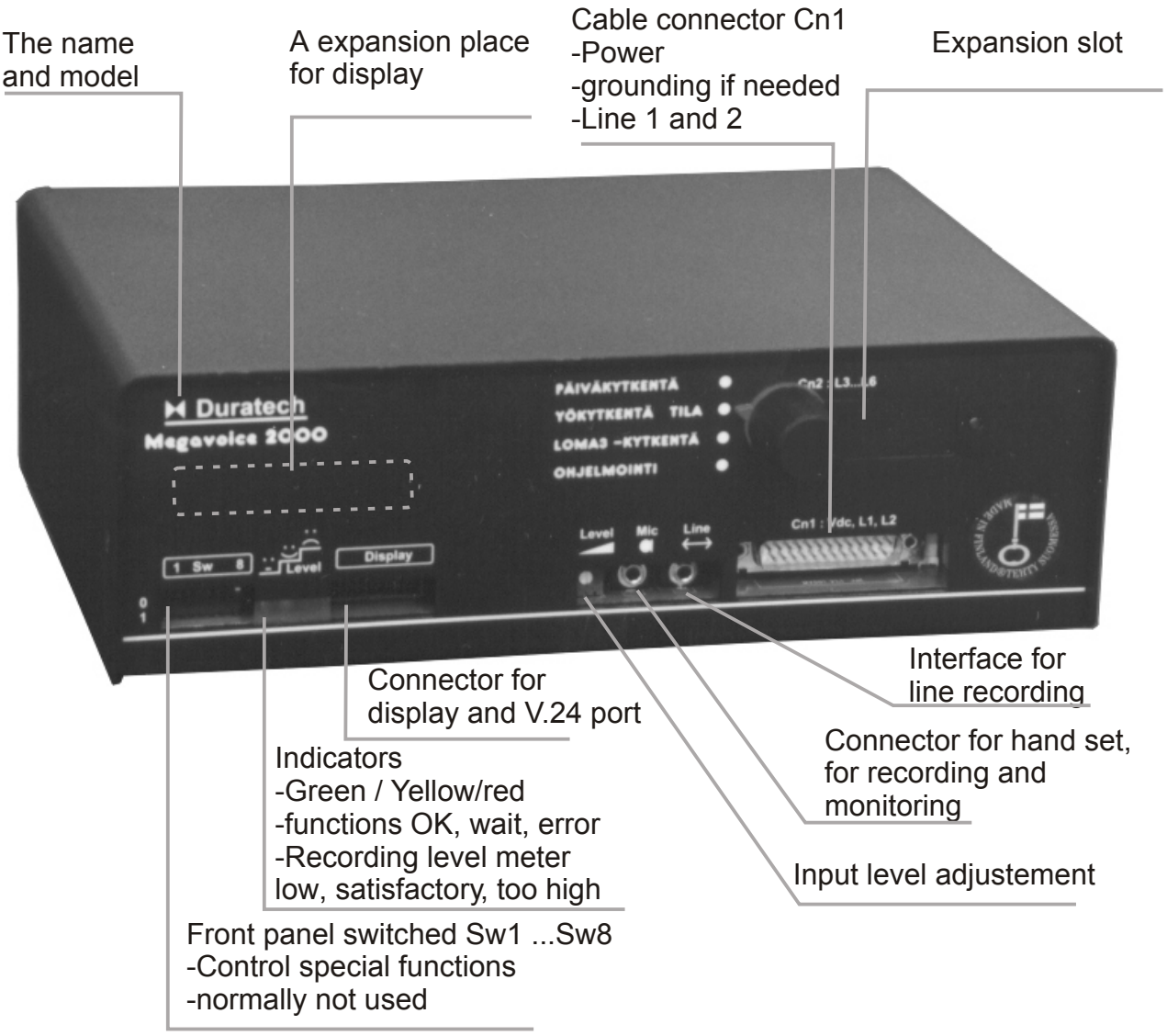
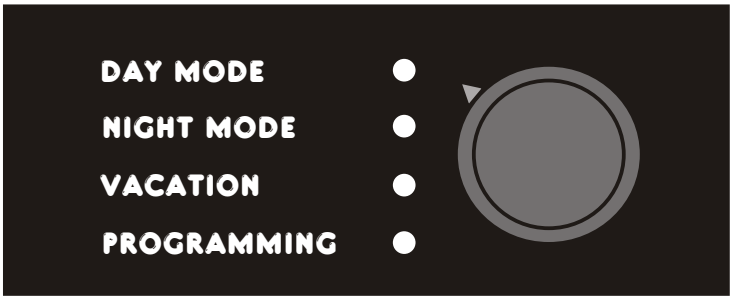
1.2 STRUCTURE OF MEGAVOICE

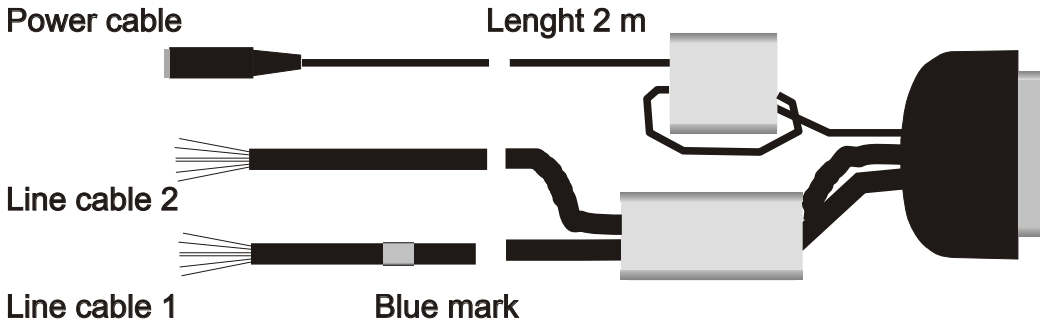




Mode switch

Under the unit there may be hidden installation bar.

1.3 SCHEMATICS 1, CABLE KIT VERSION 1.



Installation cable kit

LINE CABLES
6-wire flat cable, 0.14mm2 . No metallic screws. Color code 1-6: blue,yellow,green, red,black,white.Flat cable can be conncted to RJ-connectors, which can have adaptors. D25 female connector.

Cable1, Line 1, has blue mark.

pin	Pair	Color	Signal
12	1.	Green	Teleline a-wire, acts also as a 600 ohm line interface.
13		Red	Teleline b-wire
24	2.	Yellow	CTI-card output a-wire, for continuos tele line
25		Black	b-wire
1	3.	Blue	M input, (Mouth, Start, V+ control input , 8...60 V)
2		White E	output, (Earth, Busy, V+ control output, 2...60V)

Cable **2, Line 2**

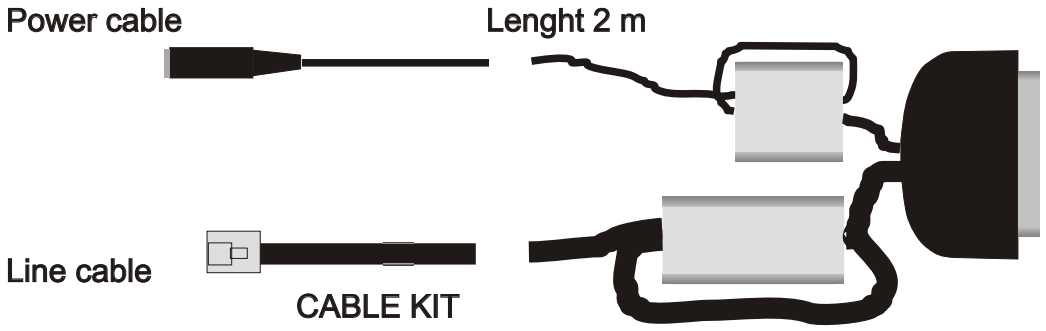
pin	Pair	Color	Signal
10	4.	Green	Teleline a-wire
11		Red	Teleline b-wire
22	5.	Yellow	
23		Black	
14	6.	Blue	M input
15		White	E output

POWER CABLE
4-wires flat cable 0.14 mm^2. Power connector 2.1 mm female DC-connector, middle contact V+. Connected to power supply. Secure DC-connector with cable strap.

D25	**Pair**	**Expanation**
6	(7.)	Green, V-, (-48V system -48V).
8		Red, V+, (-48V system 0V, ground).
5		Frame ground
4		V- out, D25/3 is E&M system V- input. Connect together is E&M used.
17		V+ out, D25/16 is E&M system V+ input. Connect together is E&M used.
16		E&M system V+ input, used only for E-wire pull up.
3		E&M system V- input, Only used for E&M.

D25-connector: 19-20 connected, Operation voltage is 12V (11-24V). As default setting If 19-7 connected and 19-20 are not , Voltage is 24V. If 20,19 ja 7 not connected means voltage is 48V.

1.3B SCHEMATICS 2 . CABLE KIT. VERSION 2.



LINE CABLES
6-wire flat cable, 0.14mm2 . No metallic screws. Color code 1-6: blue,yellow,green, red,black,white.
Flat cable can be conncted to RJ-connectors, which can have adaptors. D25 female connector.

CABLE **1 : Lines 1 ja 2.**

pin	Pair	Color	Signal
12	1.	Green	Teleline 1. a-wire, Acts also as 600 ohm interface.
13		Red	Teleline 1. b-wire
10	2.	Yellow	Teleline 2. a-wire, Atcs also as 600 ohm interface.
11		Black	Teleline 2. b-wire
24	3.	Blue	600 Ohm/teleline a-wire, CTI line.
25		White	600 Ohm/teleline, b-wire, CTI-line

OTHER LINE INTERFACES IN D25 :

pin	Pair	Color	Signal
1		Green	1.line M input, (Mouth, Start, V+ control input , 8...60 V)
2		Red	1. line E output, (Earth, Busy, V+ coltage out, 2...60V)
22		Yellow	Not connected.
23		Black	N.C.
14		Blue	2-liune, M input
15		White	2-line, E output

POWER CABLE
4-wires flat cable 0.14 mm^2. Power connector 2.1 mm female DC-connector, middle contact V+. Connected to power supply. Secure DC-connector with cable strap.

D25	**Pair**	**Expanation**
6	(7.)	Green, V-, (-48V system -48V).
8		Red, V+, (-48V system 0V)
5		Frame ground
4		V- out, D25/3 is E&M system V- input. Connect together is E&M used.
17		V+ out, D25/16 is E&M system V+ input. Connect together is E&M used.
16		E&M system V+ input, used only for E-wire pull up.
3		E&M system V- input, Only used for E&M.

D25-connector: 19-20 connected, Operation voltage is 12V (11-24V). As default setting If 19-7 connected and 19-20 are not , Voltage is 24V. If 20,19 ja 7 not connected means voltage is 48V.
Note 1.: LSA+ accepts 0.13-0.5 mm^2 cable. Line cables can be used with it.
Note 2.: Typical pair numbering is marked above.

1.4 FUNCTIONING

Megavoice has 4 different modes : day 1, night 2, vacation 3 and programming 4. Every line has separate messages and line type (functioning) in each different Megavoice mode. The line functioning can be adjusted to work with nearly any equipment. Megavoice programming lines can be connected together. Then only the right megavoice with right password do not hang up.

1.5 EXAMPLE 1, ANSWERRING MACHINE AND MUSIC ON HOLD AND REMOTE MAINTENANCE,

Line 1 and 2 are connected to extentions 207 and 208. Line 1 has type 16 and line 2 has 128. Line 1 answers and gives informative announcenment " Our office hours are … " Line 2 in a Music on hold source for the PABX. The system can be programmed with line 1 with login-command before the messsage starts.

1.6 EXAMPLE 2, E&M LINES WITHOUT E-LINE (Busy) DETECTION

Line 1 and 2 are connected to PABX E&M-lines. Line types are 25. The message starts when there is a start pulse via M-wire. Megavoice has CTI-line connected to 1srt E&M-signal pair. 1st Teleline is connected to extention. Remote programming is done using L1 teleline and other times the E&M -messages operate normally.

1.7 EXAMPLE 3, E&M WITHOUT M-SIGNAL (start)

Line 1 and 2 type 144. Both lines give continous message on E&M lines. E-wire indicates when the message is on and a short off state when the message starts again.

1.8 EXAMPLE 4, CONTINOUS MESSAGE AND REMOTE PROGRAMMING

Line 1 has CTI-circuit. CTI-is connected to extention 208. L1 teleline is connected to 207. Line 2 is connected to 209. Line 1 type is 153, line 2 has type 128. CTI-line and L2 gives continous message but it is possible to call for programming the L1 teleline.

1.9 EXAMPLE 5, TRANFERRING MACHINE

Line 1 has type 50 and answer delay is 2 and it is connected to 207 The transferring number is 0 04001223456. The message 1 is " the call is been transferred, please hold on ". All calls are transferred and the user can change the transfer target number using remote programming. This is follow me service

1.10 EXAMPLE 6 TRANSFERRING MACHINE AND NIGHT MESSAGE

Line1 has type 50, answer delay is 1 and extention number is 207. All calls go to 207. Transferring target number is 55, which is a extention series having extention 208. Line 2 ihas type 50 , answer delay 10 and transfer target is 55 and it is conncted to 208. Line 1 wellcomes Message 1" This is telephone service" and is there is no answer there is a another message from line 2 after apx 50 s message 2 "You are still on a line. Please hold on". During night time L1 has type 16 and message 3, which is " Our office hours are … Please call again".

1.11 EXAMPLE 7, PREANSWER

Line 1 has type 48 , target transfer number is 9 and and extention number is 207. L1 answers " This is … company, please hold on" and transfers the call to operator, 9. During night time the L1 answers with night message 3 "Our office hours are". Line 2 has type 128 and it acts as a music on hold source.

1. 12 EXAMPLE 8, RUSH HOUR MESSAGE AND MUSIC ON HOLD

L1 has a type 50 (delayed answer, tranfer) and the answer delay is 5 and the transfer number is 18. L1 is connected to an extention that ring parallel to operator, whose number is 18. L2 has type128, continous message. It gives music on hold to an extention continously. If the operator 18 do not answer within apx 25s the system answer " Our swich board is busy. Please hold on." and the call is transferred to operator till she can answer the call. During night time the line 1 can give immediate answer and night message. The queuing to the operator stops when the ISDN line releases the line when caller hangs up.

EXAMPLE : Siemens 100 PABX sends DTMF after *53 command. Extention number here is 43.

PROGRAMMING
Switch is placed into Programming state. Line 1 is called with 43. Megavoice answers and gives voice guide. The system programming may start.

Line set up.
∗50 1∗50∗1#, ∗50 1 ∗48 ∗2#, ∗50 1 ∗48 ∗ 3#, ∗50 1∗48 ∗4 #.
∗52 1∗1∗1#, ∗52 1∗3∗2#, ∗52 1∗5∗3#, ∗52 1∗7∗4#
∗56 1∗18# , 18 is the extention of the operator.
∗57 1∗5#, There is a 5x5 s delayed answer

Line 2 is set up.
∗50 2∗128∗1#, ∗50 2∗128∗2#, ∗502∗128∗3#, ∗502∗128∗4#, All modes has MOH.

∗66# . Setup is stored

Message 1,2 and 3 are recorded.

Chech the recording with ∗ 3 m #.
Erase old recording with ∗1 m# command.
Record new message m with ∗ 2 m # using telephone. The music may be entered with line interface also.
Check the recordings with play back ∗ 3 m # command.

Msg 1 = Day rush hour, line 1. "Our switch board is busy. Please hold on . "
Msg 2 = Music on hold, Continous music in all mode.
Msg 3 = Night information message " Our switchbourd is open … . Please call again."
Msg 5 = Vacation message " During Xmas time our office is open .... "

The mode switch is placed into Day mode. The line is hung up.

Test the installation.

2. RECORDING

The messages of the announcer must be recorded and stored before use. Usually the spoked masseges are stored using normal telephone. The unit is controlled with DTMF-code commands. Also it is possible to enter recording using line interface in the front panel from CD or tape recorder.

In order to program the user must enter programming state. 1-way : It can be reached by using the front panel Program-switch, and calling the 1st line. The unit gives spoken voice guide. The programming mode is ended when the switch is placed into another position. This requires that the unit is in default position or programmed to operate this way. 2-way is that the unit called using 1-line. When the unit answers the user gives ∗0 <password># command and enters the programming state. The programming state is ended with ‘0# command.

Megavoice can have up to 9 messages 1...9. Here a message number is indicated using m. Message 9 is voice guide. Installer sets up or uses the default values to control the unit give certain message on certain line or certain mode (day/night/vacation/program). The old messages is played back with ∗ 3 m #, like ∗ 31# for message 1. Message is removed with ∗ 1 m # and new message is recorded with ∗ 2 m #. Recording and playback stops with #. The recording level is suitable when the red led flashes now and then. The programming messages are decribed in the Programming section of this manual.

RECORDING TECHNIQUES

The recordings can be entered with telephone call, head set mic-connected directly to Megavoice, with line level (0.8 V) interface from CD or recorded or PC. The operations are controlled in all cases using line 1 with a DTMF telephone. The levels or the mic and Line interface can be adjusted with a level setting in the front panel. The best result can be reached using front panel line interface but telephone is usually adequide. The recordings can be edited using PC or recorders. With suitable sofware the voice can be compressed and mixed for the telephone lines but this needs some knowledge. Many times the recordings can be mixed acustically ; the back ground music can be recorded using CD-player playing on the back ground on the desk. This takes some test runs but it works well.

The Megavoice has a very sharp band pass filter (apx. -50 db/oct) from 230...3400 Hz. The front panel level meter leds indicate the digitized signal with this filter and indicates the real digital audio level recorded. Red led is -9dBm, yellow is -17dBm, green is -23dBm. -9Bd is apx. the level of the dial tone in the telephone network which is usually the target level of the messages. It is good idea to compare own recordings with dial tone. Also an ear is more sensitive to higher frequencies and it has to be compensated sometimes by lower the level. Usually the recording level is ok if the red led flashes occasionally. Automatic level adjustement is not used because it can not be controlled well. 0dBm=775mV @ 600 Ohm here.

If PC software compression is used, cut the low (<200Hz) and high frequncies (>3400Hz) before compression (normalisizing). Good results are obtained using 1:4 compression for telecom network.

3. INSTALLATION

3.1 MECHANICAL INSTALLATION

Megavoice is placed into a suitable place and line cable kit is connected to the D25 connecter in the front panel. The power supply is connected. The extention line are connected to the line cable. See schematics for details. One line can be connected to tele line or 600 ohm line. Also E&M signaling can be used. A additonal 2x16 character display can be connected to Display-connector.

3.2 QUICK START

GENERAL

- OK is 2 beeps,
- Wait/infomation tone is one beep,
- Error tone is 9 beeps.
- All commands start with ∗ and end with #. Detailled commands are in installation manual.

1. Install Megavoice cables.

1B If front panel mode switch is used : Place mode switch into Program state.

2. Ring line 1. Its extention number is _____. (Installer fills in)

If necessary dial DTMF sending start prefix _____ (==)

3A. If mode switch is used : Wait for 2 beeks, OK.

3B. Else : Dial ∗0 pppppp #, (login) immediately the device answers. Password here is pppppp, see 3.4. Programming state is reached this way. If password is not used ∗0 #, can be used. Megavoice answers with OK beeps. If not try call again.

4. Play an old message 1.

Dial command ∗3 1#. Device plays back message 1. This way m -message is played back with ∗3 m # command. # stops playing

5. Erase old message 1. Dial ∗1 1 #. This way m-message is erased with ∗1 m #. Device beeps till it gives OK beep. Message 9= guiding tone and it can only be erased with switch 8 =1.

6. Record message 1.

Dial command ∗2 1#. Wait 2 s for a start beep and record new message with a hand set or CD with line connector. Stop with #. Device gives then OK beep. If error or out-of-memory-error it gives error-tone.

7. Repeat steps 4...6 for necessary messages. The meaning of different messages are hopefully written by installator to chapter 3.4

8. Now installer can enter other set ups. The line answer/delays, transfer target numbers etc. must be entered. The set ups must be stored with *66# into non-volatile memory in the end for power failures.Recordings are always stored.

9. Finally exit the programming state.

9A. If mode switch is used : Switch it off the Programming state and it cuts the line.

9B. Else: With ∗0 # command or the device logs out after 222s of no-commands-state.

10. Test the installation.

3.4 MEGAVOICE 2000 - INSTALLATION DATA

PLACE : _____

PABX TYPE : _____

LINE 1 EXTENTION :_____ LINE 2 EXTENTION :_____

PABX DTMF START CODE : _____

MESSAGE : MEANING

MESSAGE 1 :

_____

_____

MESSAGE 2 :

_____

_____

MESSAGE 3 :

_____

_____

MESSASE 4 :

_____

_____

MESSAGE 5 :

_____

_____

MESSAGE 6 :

_____

_____

MESSAGE 7 :

_____

_____

MESSAGE 8 :

_____

_____

MESSAGE 9 :

_____

VOICE GUIDE ∗1 message number # is erasing, ∗2 msg number # is recording, ∗3 message number # is play back …
Message 9 can only be erased with sw8 down.

LINE 1 :

1 DAY *50 1* _____*1# (50) *52 1*_____*1# (1)

2 NIGHT *50 1*_____*2# (16) *52 1*_____*2# (3)

3 VACATION *50 1*_____*3# (16) *52 1*_____*3# (5)

4 PROGRAMMING *50 1*_____*4# (16) *52 1*_____*4# (7)

TRANSFER TARGET NUMBER *561* _____#

ANSWER DELAY (RINGS) *571* _____# (1)
LINE INTERFACE: TELELINE _____/ 600 ohm_____ / E&M _____
INTERNAL CTI-CARD INSTALLED (Yes/No) _____ (Y)

LINE 2 :

1 DAY *50 2* _____*1# (50) *52 2*_____*1# (2)

2 NIGHT *50 2*_____*2# (16) *52 2*_____*2# (3)

3 VACATION *50 2*_____*3# (16) *52 2*_____*3# (6)

4 PROGRAMMING *50 2*_____*4# (16) *52 2*_____*4# (7)

TRANSFER TARGET NUMBER *562* _____#

ANSWER DELAY (RINGS) *572* _____# (1)
LINE INTERFACE: TELELINE _____/ 600 ohm_____ / E&M _____

SYSTEM :

Flash time (x 10ms) *59 1*_____# (12)

Delay flash-number(x 100ms) *59 2*_____# (10)

Delay Answer- (x 100ms) *59 3*_____# (20)

MODE SWITCH (01=no /02=used) *59 4*_____# (03)
(03=used, prog state no login)
MV TYPE (01=Transfering machine) *59 5* _____# (01)

PASSWORD *7 _____# ( )
EQUIPPED WITH INTERNAL MODE SWITCH (Y/N) _____(Y)
EQUIPPED WITH EXTERNAL MOE SWITCH (Y/N) _____
MEMORY EXPANSION (Y/N + capacity S) _____(N)
POWER VOLTAGE (12/24/48 VDC /230VAC) _____ (12V)

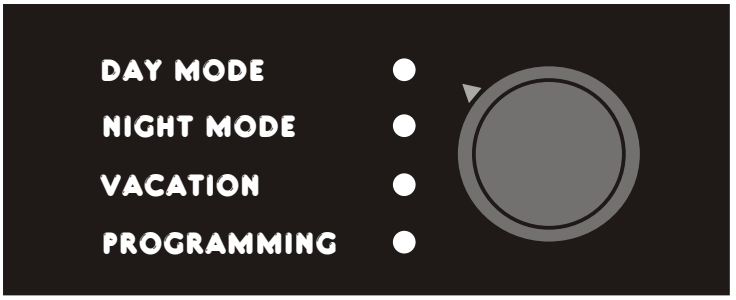
SERIAL NUMBER: _____

FRONT PANEL SWITCHES (1/0) :
1_____ 2_____ 3____ 4____ 5____ 6____ 7____ 8_____ (00000000)
* Defaults are inside brackets ( ).

3.5 FRONT PANEL MODE SWITCH

Megavoice can be equipped with a front panel mode switch. Is sets MV into day/night/vacation/program mode. There are 4 modes and mode controls freely which message is used and how does a line operate. The switch is activated by ∗594∗3# command. Many times the unit is progammed so that when mode is Program, a call to the 1st line enters the programming state directly and the unit gives voice guide explaining different commands. Voice guide repeats every 45s is nothing is done. The programming mode can be existed turning the switch off the Program state.

EXAMPLE :
-In day mode he unit answers calls directly, announces a service number message and transfers the call into extention group.
-In day mode the unit answers and gives night message and hungs up.
-In vacation mode the unit gives adjustable vacation message and hungs up.
-In program mode the unit answers and enters programmin state and exits it when swithed off it.



A picture of the mode switch

3.6 DAY/NIGHT CONTROL

Megavoice 2000 can be also set into day/night/vacation mode by remote control if the mode switch is not used. First line is called and a right command is entered immediately when megavoice answers. The Programming mode is not needed in this case. The right command can be programmed into speed dialing or programmable key of the telephone set. The state can be tested by callin megavoice again. If state is not correct, the programming of mode can be redone. See commands starting with ∗4 if necessary

EXAMPLE 1 :
Call Megavoice 1st line using _____
and after 2 s
-For day mode : press key tagged “Day mode “.
-For night mode : press key tagged “Night mode”.
-For vacation mode: press key tagged “Vacation mode”.

EXAMPLE 2 :
Call Megavoice 1st line using _____.
and wait for 2 s and press then :

-For day mode ∗41 ∗∗111#
-For Night mode ∗42 ∗∗111#
-For Vacation mode ∗43 ∗∗111#.

Note: Here the password starts with 111... .

4. PROGRAMMING

4.1 GENERAL

Megavoice is controlled with DTMF codes. One command starts with ∗ and ends with #. Different fiels are separated by ∗ except 1st one which is line number. If value field is ∗, Megavoice displays the value. ∗ can have also other meanings like all lines like ∗1∗∗#. Eg. Play back message 1 is ∗ 3 1 #.

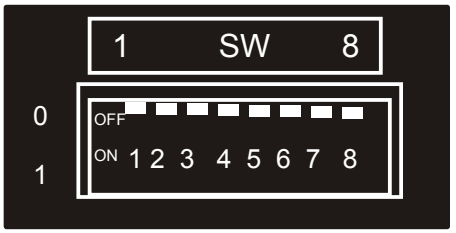
Megavoice replays with 2 beeps=OK-tone, or with 9-beeps=Error-tone, or 1beep= wait/ information tone.Eg. Device gives information tone before and after playing one message with play command. Then the lenght of the message can be timed exactly.

LCD display indicates error and Ok and many useful information, like free memory, parameter values, or how many calls per line. The maintenance and learnig is easier with display. If remote programming is used, the first command is login and the last is logout. Megavoice logouts if no command are used for 3 minutes.

The set up data must be stores with ∗ 66 # into non-volatile memory for power failures at the end of installation. Line counters are backed up every 24h. Remote mode changes are immediately stored.

Megavoice has 1 lines. They have 4 modes : Day/night/vacation/programming. There are 9 possible messages. During installation the functioning of the line must be programmed; direct/delayed answer AND information or message+transfer+number. Also the message given in different line/mode states must be entered. Default values can be used, which saves some work.

4.2 FRONT PANEL SWITCHES



The front panel switches are not usually used, but can be used in special cases.

Switch 5 : If down(1) and Megavoice is power up, the factory set up values are used and they can be stored.

Switch 6: If down(1), Megavoice do not wait extra 1s between commands to indicate value in the LCD.

Switch 7: If down(1), the programming mode is not timed and there is no automatic release. Also if ∗ 594=3 and sw7=1 (on), L1 is in the programming state immediately. The programming can be done with CD player script on L1.

Switch 8 : If down (1), All passwords are accepted as ∗ 0 # command. Also must be down if message 9 or all messages are erased.

5. MEGAVOICE COMMANDS V.3.0

This expains the different commands. First is syntax, then fields are explained, then notes.

5.1 LOGIN INTO PROGRAMMING STATE 0

[*][0][n][n][n][n][n][n] [#] OR [*] [0] [#] if password is not used. Read notice.

,nnnnnn=password with 6 numbers. Default nnnnnn= <is not written here, see 3.4>.

Display : Before command "Login".
Device : Line 1 is called. Some PABX require that a function code is now entered to start DTMF-sending. It is stated is the PABX manuals. Wait for megavoice answer.
Dial * 0 nnnnnn #. Megavoice sends OK-beeps, green led is lid and the display indicated "Enter command". The message of the line is halted. When megavoice answers the line, it waits for 2 second before it starts its message. Dial this comand immediately the Megavoice answers. The Spoken message wmay interface with the Dual-Tone-codes.Eg. * 0 123456 #.
Note : If mode switch is activated with * 594* 3# (as default)and the device is in PROGRAM-state, * 0 # is not used for login. Megavoice answers then and goes directly into programming state and gives 2 beeps= OK

5.2 LOGOUT OF THE PROGRAMMING STATE 0

[*][0][#]
When used during programming, program exits the programming state and hangs up.
Display indicates "logout " followed by "login". Eg. * 0 #.
Note : If Mode Switch is activated by *594* 2# or *594* 3# commands AND the Mode Switch is in Program-state, THEN the line is hung up if the switch is changed into other state. Useful to exit the programming state.

5.3 ERASE MESSAGE 1

[*][1][m][#]
m= message number 1... muodossa. If m=** clear all messages (= command * 1** #).
Default is all messages empty. Guiding message 9(and all) can be erased only if sw8 is 1=down.
Megavoice : Beeps once for every 8 s erased. When ready beeps twice as OK-tone. Error tone (9-beeps) is given when there is an error. Eg. Erase message 1 is * 1 1 #.

5.4 RECORDING MESSAGE 2

[*][2][m][#]
m= message number 1...9
Megavoice : Gives one beep 2 s after this comend to indicate start of recording. Recoring is stopped with # command or with 9-beeps error tone is memory is full or message is not empty. # beep is not recorded.
The front panel leds acts as UV level meter. The red led may occasionally flash during recording. Recordings are stored into chip memory for 20 years. See also chapter Recoring.
Message must be erased before recording a new one. Eg. Record msg 1 is * 2 1 #
Eg Dial * 2 1 #, wait for a beep, record and stop with #. Play back it with * 3 1#. (See 5.5)

5.5 PLAY MESSAGE 3

[*][3][m][#]

m= Message number 1...9 . Command plays back a recorded message.
megavoice : Gives on wait-beep and play message mm , ends with wait -beep, and gives OK-beeps.
Display indicates the number of the message. Play back can be halted with #.
Eg. Play message 1 is * 3 1 #. Play message 2 is * 3 2 #

5..6 MODE DAY/NIGHT 40/41/42/43/44

There is a handy command :

∗40 c ∗ m # , Sets line c into state m.
∗40 ∗∗ m # , Sets all lines into state m.

Without programming state, there are commands:

∗40 ∗∗ nnn # , night mode for all lines
∗41 ∗∗ nnn # , day mode fro all lines
∗42 ∗∗ nnn # , night mode for all lines
∗43 ∗∗ nnn # , vacation mode for all lines
∗44 ∗∗ nnn # , programming (4) mode for all lines.

Note : above commands do not operate in the programming state.

c= line number 1... (one digit). If value is ∗∗ means for all lines.
nnn= First 3 digits of the password. Default is 111.
m= mode 1,2,3,4. 1=day, “=night,3=vacation and 4 is programming state.

When the mode is changed it is automatically stored into non-voltatile memory for power failures.

Eg:

∗40 ∗∗1 # set all lines into day(1) mode.
∗40 ∗∗2 # sets all lines into night(2) mode.
∗40 ∗∗3 # sets all lines into vacation mode.
∗41 ∗∗111 # sets all lines into day mode without entering programming state.
∗42 ∗∗111 # sets all lines into night mode without entering the programming state.
∗43 ∗∗111 # sets all lines into vacation mode.

The front panel mode switch is connected to sw1 and sw2. M1 input sets sw1=1 and M2 input sets sw2=1. In day mode sw1=0, sw2=0, in night mode sw1=1,sw2=0, in vacation mode sw1=0, sw2=1 and in programming mode sw1=1, sw2=1. If front panel mode switch is active and placed into day position or not equipped at all, the device mode can be remotely controlled with M1 and M2. Also M1 and M2 can be tested with sw1 and sw2. Sw1=1 means switch sw1 is in ON position.

5.7 RESET INCOMING CALL COUNTER

∗45 ∗∗ 0 #

Command resets all incoming call counters to 0. The call counters are stored every 24h for power failures. The counter counts 0...50000 and then starts from 0.
If display is used the counter is displayed on the 2nd line.

5.8 NOTE

If commands ∗5 have value ∗, the current value is displayed.

5.9 RESERVED

5.10 LINE TYPE 50/51

∗ 50 c ∗ tt ∗ k # , Set Line c, Type tt, in mode k.

∗ 50 c ∗∗ k # , Display line c type tt in mode k.

∗ 50 c ∗ tt # , Set type during night mode
∗ 51 c ∗ tt # , Set type during day mode

c = line number 1...6.
tt = type 00...255 . If ∗∗ =display the value.
k = modei 1,2,3,4 (day,night,vacation, programming)

tt builds up from the following sum.
128 = Continous message (start), auto start after release.
64 = pulse dialling (reserved, not used)
32 = Transfer the call after a message
16 = Teleline and E&M-line is released after the answer, hung up after a message. Then there is 250ms pause (on E-line) before next active state.
08 = The line is E&M-type.
04 = Reserved , for line monitoring
02 = Answer with a ring delay indicated by ∗56c∗n#-command. Default delay is 1.
01 = Teleline answer on L1 possible during even on E&M-on-state. L1 do not switch teleline or 600 om line ON (for CTI-line)

Example Ready types :

Type	tt	Description
0	153	Continuous message on CTI-line, answer on 1 line call.
1	144	Continous message, E&M. Meridial etc.
2	128	Continous message and loop current on teleline
3	16	Call is answerred directly, message given and line released after that.
4	18	Call is answerred with a delay, message given and then released.
5	48	Call is answerred, message given and the call is transferred with a flash.
6	50	Same as 48 but with a delayed answer.
7	25	E&M on L1 with CTI-line.Teleline answer is possible for remote control.
8	24	E&M-line controlled message line. Meridian, MD etc.
9	09	The message starts if 5 V is received on E-wire. Also teleline answer/programming is possible.

After a command Megavoice gives OK tone and displays CH=cc TYPk=tt.

When line 1 answers there is a 2 s delay before the message starts for entering the programming state.

5.11 LINE MESSAGE 52/53

∗ 52 c ∗ m ∗ k # , Set line c to have message m during mode k.

∗ 52 c ∗ ∗ k # , Display line c message m during mode k.

c = Line number c (1...6)
m = Message number m.. If ∗, display the value.
k = modei 1,2,3,4 (day,night,vacation, programming)
As defauls the message of line in different modes 1,2,3,4 ovat ; L1 =1,3,5,7 and L2=2,4,6,7.Megavoice replays with OK tone and displays CH=cc MSG=mm.

5.12 LINE LEVEL 54/55

∗ 54 c ∗ n # , LINE c output reference level, small number is low level.
∗ 55 c ∗ n # , LINE C input reference level. Small number is high sensitivity

c = Line number (1...6)
n = digit 1...9. One number is 3 dB. If *= display the value.
Default output level is 8 and input is 6. 8 ja sisään 6. The level meter is adjusted with these values. The level adjustment is not recommended.
Megavoice replays with OK tone and displays after 54 L=cc OUTL=nn and after 55 L=cc IN-L=nn.

LINE L	**Value *54, default**	**Value *55, default .**
1	**8**	**6**
2	**8**	**6**

5.13 LINE TRANSFER NUMBER 56

∗ 56 c ∗ nnnnnnnnnnnnn # , Enters the transfer target number

c = LINE (1...6)
nnnnnnnnnnn = telephone numbers using 0...9. Default is empty. If n=* display the number.

The transfer target number of the line is entered. Megavoice replays with OK tone and displays the number.
See. 5.16.

5.14 ANSWER DELAY 57
∗ 57 c ∗ nn #

c = Line number (1...6)
nn = value 1...9 or 10.99. If ∗= display the value. Default is 1 **rings**

Megavoice sets the line c to have answer delay of nn **rings**. One ring has a minimum lenght and maximum delay between rings of 6.2s. This delay is used if the line type has delayed answer. Megavoice replays with a OK tone and displays the value L=cc RING=nn. Note : Do not give too high value or you may not be able to enter the programming mode. See also 5.16 ja 5.17.

LINE L	ANSWER DELAY (default)
1	(1)
2	(1)

5.15 PARAMETERS 59
∗ 59 pp ∗ nn # , Set a value for a parameter nn.
∗ 59 pp ∗∗ # , Display the value

pp= parameter number 1...9 or 01...99, nn= value 0...256 (there can be a limitation)

These parameters set up advanced technical features.
Megavocei sets up parameters with a value. Finally OK tone is replayed.
Display indicates : PA=pp VAL =nn.

Parameter	Default	Unit	Value	Total	Explanation
par	nn			ms	
01	12	10 ms	12 x 10 ms = 120 ms.		Flash time.
02	10	100 ms	10 x100ms=1s		Delay bw last DTMF digit and release.
03	12	100 ms	20 x100ms=1.2 s		Start delay before a message
04	03	number			Mode switch
05	01	number			SW mode, MV=01.

Used setting is value * unit.

Parameter 01 Flash time. The lenght of loop brake state during transfer flash. Too short flash do not work and the caller hears DTMF-tones. Too long value cuts the call. Sometimes th best value is the mean value of the maximum and minimum tested operational values.

Parameter 02 Delay between last DTMF digit and release of the line.

Parameter 03 Extra dely for line 1 between answer and start of message to enter programming state. The base delay is 2s and this is added to it.

Parameter 04 Value=01. Normal state. No mode switch in use.
Value=02. Mode switch is used. Front panel mode switch (and sw1,2 and E1 and E2-wires) sets the current operational mode (day/night/ vacation/programming). If the switch is switched of the Programming, the line is released.
Value=03. As 02 and Megavoice enters the programming state immediately if the mode switch is in Programming state.

5.16 STORE SETUPS 66
∗ 66 #

Megavoice stores set ups into non-volatile memory from RAM. Set up must be stored with this when everything is set up. On power up set up is read from this memory. Megavoice replays Ok tone and displays STORED SETUP. Recordings and day/night mode changes do not need to be stored with this.

5.17 SETUP DEFAULTS 67
∗ 67 #

Megavoice uses the factory default values for set ups. This do not interfere with the recorded messages. Megavoice replays with OK tone and displays STORED INITS. It is then possible to store there defaults (see 5.16) Also it is possible to take defaults if Megavoice is powered up with switch 5 down. This is used if answer delay is too long.

5.18 CHANGE PASSWORD 7
∗ 7 pppppp #, wait for OK , retype ∗ 7 pppppp # wait for OK.
pppppp= password with 6 digits.
Default value is not here but written in 3.4.

This command must be entered twice. If password is 000000, password is no longer used. Programming state can be reached even with ∗ 0# command without password. Password can be by-passed with front panel switch 8 if necessary.

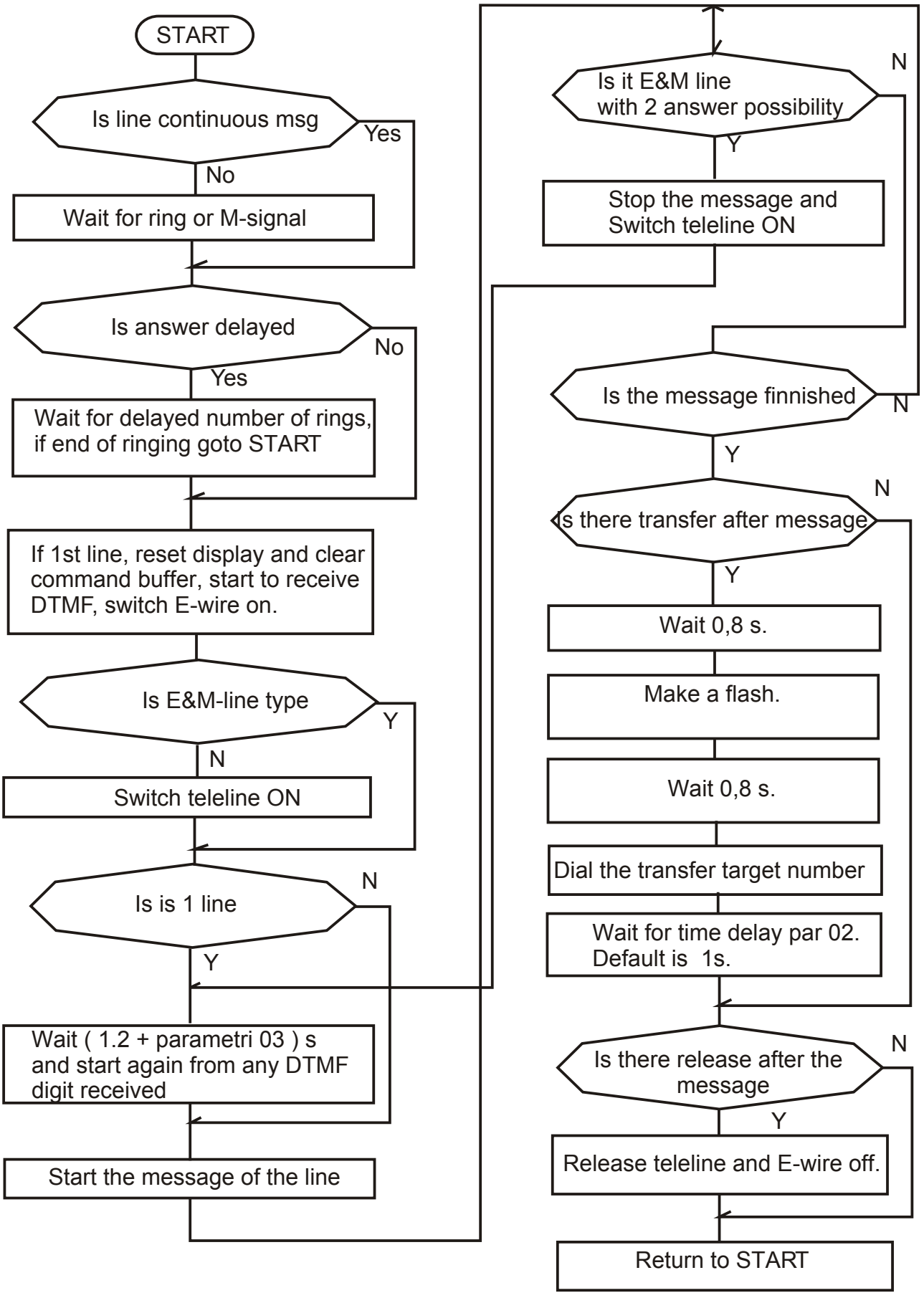
5.19 RESET DISPLAY 95
∗ 95 #
Resets the display unit. This command is sometimes used if the display is connected with Megavoice on. Display should be connected always with megavoice off or dtmf transceivers might have problems.
.
5.20 DISPLAY MEMORY 99
∗ 99 #

Megavoice displays the software number >SOFTWARE V3.0<, total memory in s like MEMORY=128S, free memory MEM FREE=112S and how many lines and messages are available CH=02 MSG=09.

5.21 RESET 0**
∗ 0 ∗ ∗ #

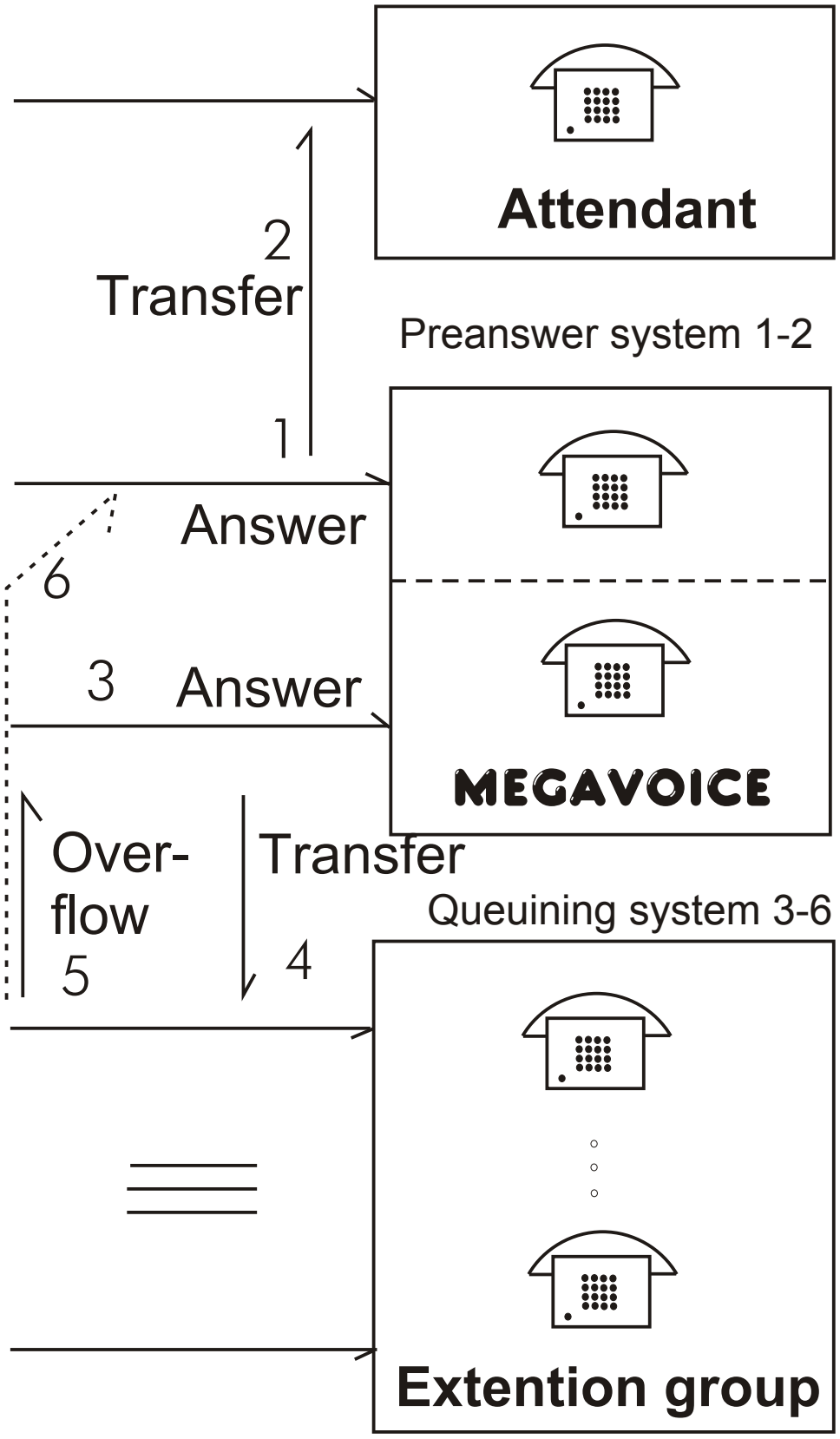
Megavoice resets it self totally into power on state. Lines are relased. The system can be checked with this command.

ANNEX 1. MEGAVOICE SIMPLIFIED OPERATIONAL DIAGRAM



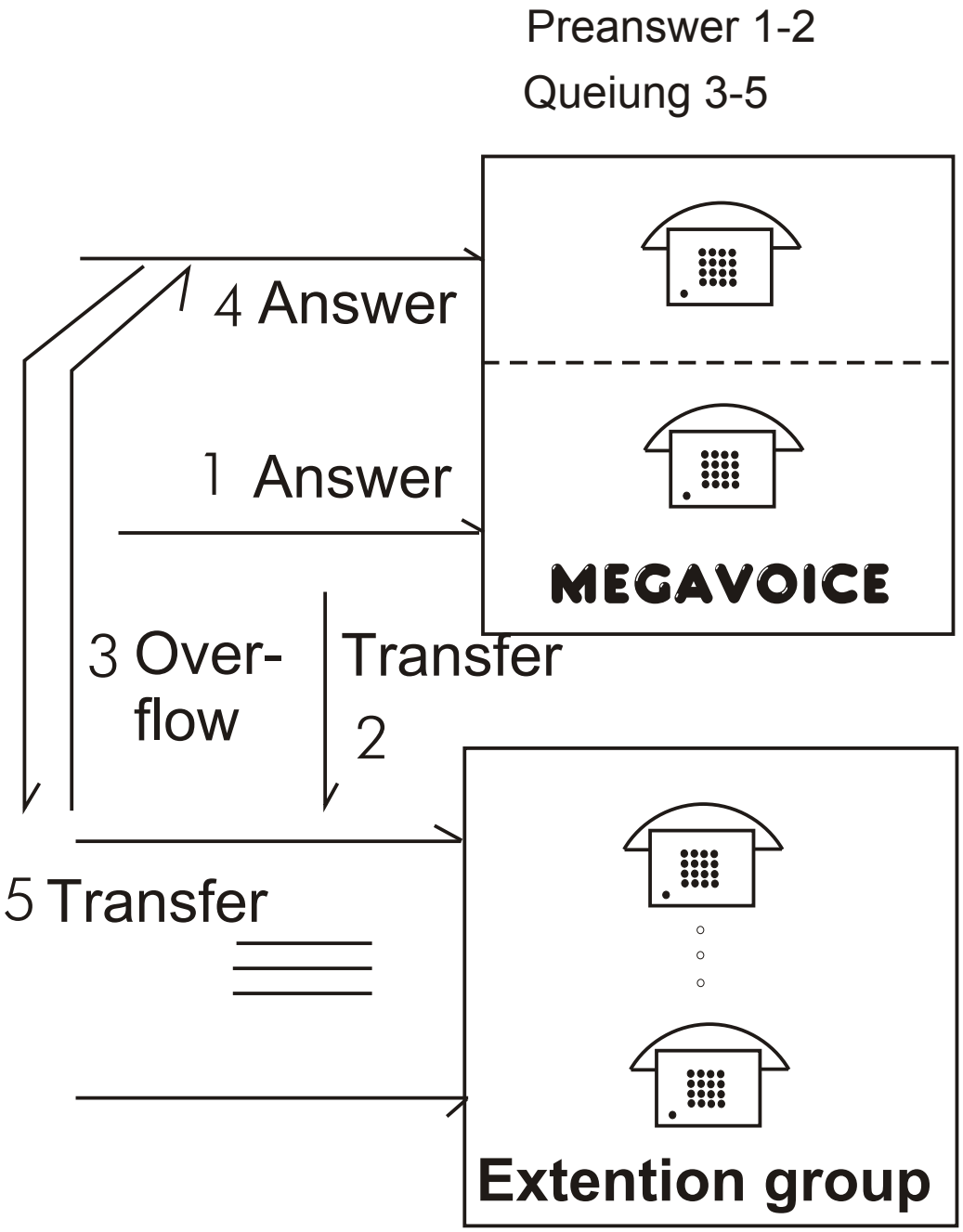
ANNEX 2. Transferring machine example 1

TRANSFERRING MACHINE= QUEUING SYSTEM



ANNEX 3. Transferring machine example 2.

TRANSFERRING MACHINE = PREANSWER and QUEUING SYSTEM



ANNEX 4.

DECLARATION OF CONFORMITY

According to ISO/IEC Guide 22 and EN 45014 :

Manuafacturer's name :	Duratech Oy
Address:	Merenneidontie 26 C, 02320 Espoo, Finland

Declares that the product:

Model name :	Megavoice 2000
Model number :	60002003

Product options : Mode switch, Expension memory, CTI-card, display

Conforms to the following Product Specifications : :

Safety:	EN 60950 : 1992+A1:1992+A2:1993+A3:1995
EMC :	EN 50081-1 (1992) ja EN 55022 Class B. EN 50082-1 (1997) ja EN 55024 (1998)
Tele-interface :	TBR21 (1998). EN300001(1996), applied in some parts The interface is especially designed for existing PABX extension line.

Additional information:
- EMC EMCEC -certified.

The device complies with the following directivies :

- EMC-directive 89/336/EEC
- Low tension directive 73/23/EEC
- The product carries the " CE"-mark.

Jarmo Kanerva, Technical Manager
Duratech Oy

2.1.2000, Espoo, Finland

CE